

Amendments to the Specification:

Please replace paragraph [0040] with the following amended paragraph:

[0040] It should also be noted that the present invention is not to be regarded as limited to use with only a single detector. Indeed, many of the algorithms utilized by the present invention require, or at least prefer, the use of more than one detector. For example, the positron lifetime algorithm 64 will generally require the use of at least two detectors (e.g., 14, 14'), one to detect the gamma rays resulting from the annihilation events and one to detect "precursor" radiation associated with the production of the positrons themselves. Similarly, the 3-D imaging algorithm 66 will also generally utilize at least two, and preferably several, gamma ray detectors (e.g., 14, 14') in order to determine the position of the positron/electron annihilation event within the specimen 18. However, since the positron lifetime techniques and 3-D imaging techniques are well-known in the art, as are the requirements for the particular types and positions of detectors (e.g., 14, 14') associated with such techniques, and since such multiple detectors could be easily provided by persons having ordinary skill in the art after having become familiar with the teachings of the present invention, the particular configurations of such multiple detector systems as they could be utilized in the present invention will not be described in further detail herein.